

ABSTRACT OF THE DISCLOSURE

The semiconductor device comprises a first semiconductor layer 14 formed on a semiconductor substrate 10; an outgoing base electrode 26 formed on the first semiconductor layer 14; a base layer 32 formed on the first semiconductor layer, connected to the outgoing base electrode at a side surface of the outgoing base electrode, and formed of silicon germanium containing carbon; and a second semiconductor layer 36 formed on the base layer. The base layer 32 of silicon germanium contains carbon, which prevents the action of interstitial silicon atoms, which are very influential to diffusion of boron. As a result, when the emitter layer 36, etc. are subjected to heat processing at, e.g., about 950 °C, the diffusion of boron out of the base layer 32 can be prevented.